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TI Preparation of high-purity pyrrolidones from .gamma.-butyrolactone

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AB In prepn. of pyrrolidone (I) or N-alkylpyrrolidones by treating .gamma.-butyrolactone (II) with NH<sub>3</sub> or primary alkylamines in the presence of H<sub>2</sub>O, (1) the reaction mixt. is fed to a 1st distn. column to remove a low-boiling fraction contg. H<sub>2</sub>O and unreacted NH<sub>3</sub> or amines from the top, (2) 1-15% of I or N-alkylpyrrolidones contained in the feed to the 1st distn. column is extd. from the bottom, (3) a side cut contg. I or N-alkylpyrrolidones is fed to a 2nd distn. column to sep. into an effluent with low b.p. contg. H<sub>2</sub>O and/or unreacted NH<sub>3</sub> or amines and/or a part of I or N-alkylpyrrolidones, (4) a bottom fraction contg. 1-10% of I or N-alkylpyrrolidones contained in the feed to the 2nd column is extd. from the bottom, and (5) the residual part of I or N-alkylpyrrolidones is extd. as a side cut. The reaction may be via .gamma.-hydroxybutyramide or alkyl-.gamma.-hydroxybutyramide. The pyrrolidones prepd. by the method contain extremely low amt. of basic impurities.

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LA Japanese